

What is claimed is:

1. An isolated nucleic acid encoding an alternatively spliced human prostate-specific membrane antigen.
2. An isolated DNA of claim 1.
3. An isolated cDNA of claim 2.
4. An isolated RNA of claim 1.
5. An isolated DNA of claim 2 operatively linked to a promoter of RNA transcription.
6. A vector which comprises the nucleic acid of claim 1.
7. A host vector system for the production of a polypeptide having the biological activity of the alternatively spliced prostate-specific membrane antigen which comprises the vector of claim 6 and a suitable host.
8. A host vector system of claim 7, wherein the suitable host is a bacterial cell, insect cell, or mammalian cell.
9. An isolated nucleic acid comprising a promoter sequence normally associated with the transcription of a gene encoding a human prostate-specific membrane antigen.
10. An isolated polypeptide having the biological activity of an alternatively spliced prostate-specific membrane antigen.

11. An antibody which specifically binds to the polypeptide of claim 10.
- 5 12. The antibody of claim 11, wherein the antibody is monoclonal antibody.
13. The antibody of claim 11, wherein the antibody is polyclonal antibody.
- 10 14. The antibody of claim 11, wherein the antibody is labelled with a detectable marker.
- 15 15. The labelled antibody of claim 14, wherein the marker is radioactive, or colorimetric, luminescent, or fluorescent marker.
- 20 16. A method of detecting in a sample the presence of a nucleic acid encoding an alternatively spliced human prostate-specific membrane antigen which comprises: a) obtaining a suitable sample; b) extracting RNA from the sample; c) contacting the RNA with reverse transcriptase under suitable conditions to obtain a cDNA; d) contacting the cDNA under hybridizing conditions with two
25 oligonucleotide primers,
 - 30 i) the first primer being capable of specifically hybridizing to a sequence within a DNA sequence encoding prostate specific membrane antigen located immediately 3' of nucleotide 114 of such DNA sequence, with the proviso that the 3' end of the primer does not hybridize to any sequence located 5' of nucleotide 114, and
35 ii) the second primer being capable of specifically hybridizing to a sequence

5 within a DNA sequence encoding prostate
 specific membrane antigen located
 immediately 5' of nucleotide 381 of such DNA
 sequence, with the proviso that the 5' end
 of the primer does not hybridize to any
 sequence located 3' of nucleotide 381;

10 d) amplifying any cDNA to which the primers
 hybridize to so as to obtain amplification
 product; e) determining the size of the
 amplification product; f) comparing the size of
 the amplification product to the size of the
15 amplification product known to be obtained using
 the same primers with a non alternatively spliced
 human prostate specific membrane antigen, wherein
 a smaller amplification product is indicative of
 the presence of the alternatively spliced
 prostate specific membrane antigen, so as to
 thereby detect the presence of the alternatively
20 spliced human prostate-specific membrane antigen
 in the sample.

17. A method of detecting a prostate tumor cell in a
 subject which comprises: which comprises: a)
25 obtaining a suitable sample; b) extracting RNA
 from the sample; c) contacting the RNA with
 reverse transcriptase under suitable conditions
 to obtain a cDNA; d) contacting the cDNA under
 hybridizing conditions with two oligonucleotide
30 primers,

 i) the first primer being capable of
 specifically hybridizing to a sequence
 within a DNA sequence encoding prostate
35 specific membrane antigen located
 immediately 3' of nucleotide 114 of such
 DNA sequence, with the proviso that the 3'

end of the primer does not hybridize to any sequence located 5' of nucleotide 114, and

5 ii) the second primer being capable of specifically hybridizing to a sequence within a DNA sequence encoding prostate specific membrane antigen located immediately 5' of nucleotide 381 of such DNA sequence, with the proviso that the 5' end
10 of the primer does not hybridize to any sequence located 3' of nucleotide 381;

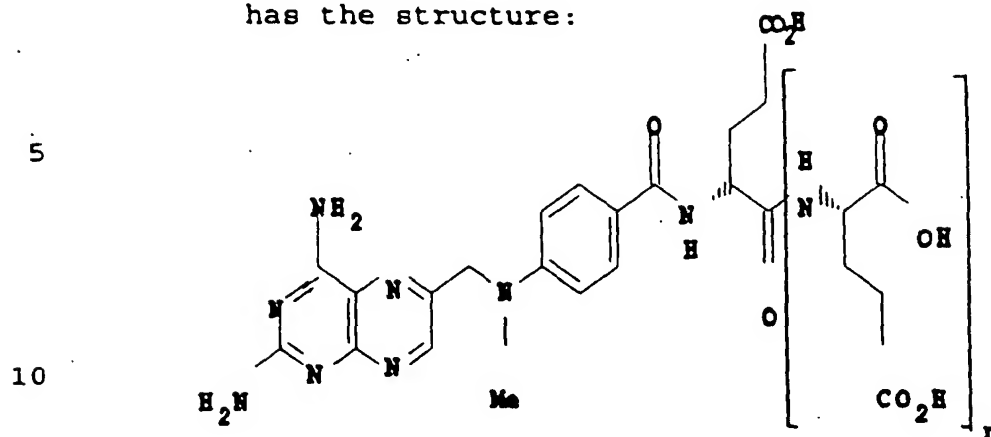
d) amplifying any cDNA to which the primers hybridize to so as to obtain amplification
15 product; e) determining the amount of the amplification product; f) comparing the amount of the amplification product to the amount of the amplification product known to be obtained using the same primers with a non alternatively
20 spliced human prostate specific membrane antigen, wherein a greater amount of the prostate specific membrane antigen is indicative of a prostate tumor cell in the subject, so as to thereby detect prostate tumor cell in the subject

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18. A compound comprising a conjugate of a cytotoxic agent and one or more amino acid residues, wherein each amino acid residue is glutamate or aspartate.

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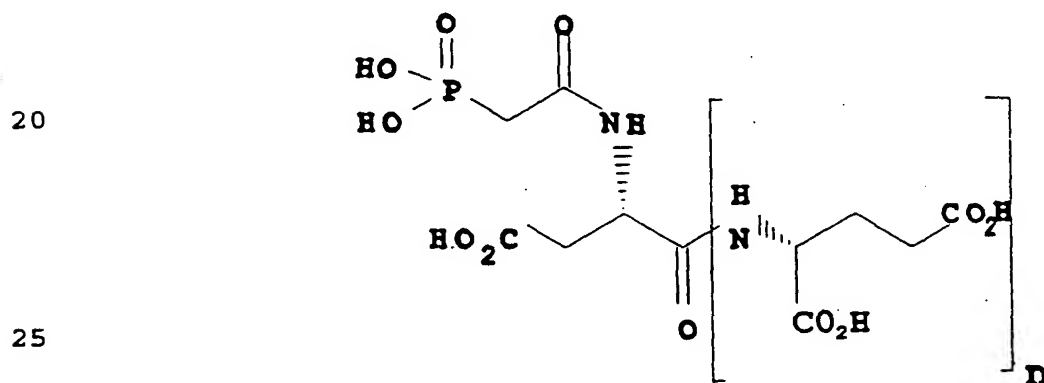
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19. The compound of claim 18, wherein the compound has the structure:



wherein n is an integer from 1-10 inclusive.

- 15 20. The compound of claim 18, wherein the compound has the structure:

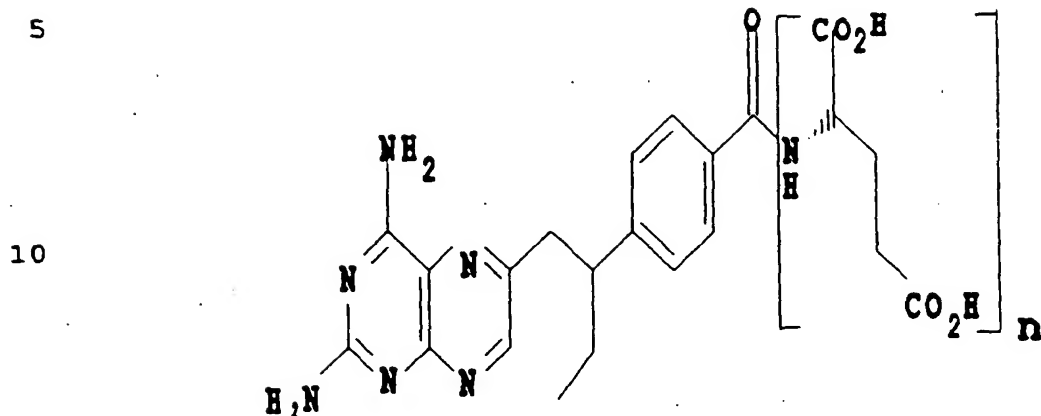


wherein n is an integer from 1-10 inclusive.

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21. The compound of claim 18, wherein the compound has the structure:



wherein n is an integer from 1-10 inclusive.

22. A pharmaceutical composition comprising the compound of any of claims 18-21 in a therapeutically effective amount and a pharmaceutically acceptable carrier.
23. A method of making prostate cells susceptible to a cytotoxic chemotherapeutic agent, which comprises contacting the prostate cells with an the compound of any claims 18-21 in an amount effective to render the prostate cells susceptible to the cytotoxic chemotherapeutic agent.